

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A device comprising:
a bus;
a plurality of first line cards connected to the bus, each first line card having a plurality of local ports, each local port being connectable to a local segment that is connected to a customer device that has an IP address the plurality of local ports being associated with a plurality of customer devices that have a plurality of IP addresses; and
a second line card connected to the bus, the second line card having a network port that is connectable to a network segment, the network port having an IP address and a subnet mask, the subnet mask including a range that is sufficient to provide a predetermined number of IP addresses of the network port identifying a range of IP addresses from the IP address of the network port, the range of IP addresses including all of the plurality of IP addresses of the plurality of customer devices.
2. (Currently Amended) The device of claim 1 wherein none of the local ports has an IP address the plurality of local ports are only connectable to a plurality of modems.
3. (Currently Amended) The device of claim 2 wherein when the second line card receives messages from the network segment, the second line card forwards messages that match the IP address and subnet mask of the second line card with IP addresses that match the IP addresses of the plurality of customer devices to the first line cards.

4. (Currently Amended) The device of claim 3 wherein each first and second line card maintains a table that indicates each of the IP addresses that are associated with each port of each first and second line card.

5. (Currently Amended) The device of claim 4 wherein when a first local port of a first line card is connected to associated with a first customer device with a device that has a first IP address, the first line card identifies messages on the bus that are directed to the device first IP address, and forwards the messages to the first local port that is associated with the device IP address.

6. (Currently Amended) The device of claim 4 wherein when a first local port of a first line card is connected to associated with a first customer device with a device that has a first IP address, the first line card receives messages from the first customer device, and forwards the messages to the second line card via the bus.

7. (Previously Presented) The device of claim 1 wherein the first line cards include xDSL line cards.

Claims 8-12 (Cancelled)

13. (New) A method comprising:

receiving a message addressed to one of a plurality of customer devices, the plurality of customer devices to be connected to a plurality of modems, the plurality of modems to be connected to a plurality of first line cards, the plurality of first line cards to be connected to a second line card that received the message, the message having an IP address and a subnet mask, the plurality of customer devices having a plurality of IP addresses;

identifying a complete IP address from the IP address and the subnet mask of the message; and

determining if the complete IP address is identical to an IP address of the plurality of IP address of the plurality of customer devices.

14. (New) The method of claim 13 wherein the plurality of customer devices includes a first customer device having a first IP address and a second customer device having a second IP address.

15. (New) The method of claim 14 and further comprising:

forwarding the message to a first line card of the plurality of first line cards when the complete IP address exactly matches the first IP address of the first customer device; and

forwarding the message to the first line card of the plurality of first line cards when the complete IP address exactly matches the second IP address of the second customer device.

16. (New) The method of claim 15 wherein:

each first line card of the plurality of first line cards includes a plurality of local ports that are associated with a number of IP addresses of a number of customer devices of the plurality of customer devices; and

each first line card of the plurality of first line cards maintains a table that includes each port of each first line card, and an associated IP address of a customer device for each port of each first line card that has an associated IP address.

17. (New) A device comprising:

a plurality of first line cards, each first line card having a plurality of local ports, the plurality of local ports to be associated with a plurality of customer devices that have a plurality of IP addresses; and

a second line card connected to the plurality of first line cards, the second line card having a network port to be connected to a network segment, the network port having an IP address and a subnet mask, the second line card identifying a range of IP addresses from the IP address and the subnet mask of the network port, the range of IP addresses including all of the plurality of IP addresses of the plurality of customer devices.

18. (New) The device of claim 17 wherein the plurality of local ports are only to be connected to a plurality of modems.

19. (New) The device of claim 17 wherein the second line card forwards a first message to a first line card when the first message includes a first IP address that falls within the range of IP addresses.

20. (New) The device of claim 19 wherein the second line card forwards a second message to the first line card when the second message includes a second IP address that falls within the range of IP addresses.

21. (New) The device of claim 20 wherein when a first local port of the first line card is associated with a first customer device that has the first IP address, the first line card identifies messages from the second line card that are addressed to the first IP address, and forwards the messages to the first local port.

22. (New) The device of claim 21 wherein when a second local port of the first line card is associated with a second customer device that has the second IP address, the first line card identifies messages from the second line card that are directed to the second IP address, and forwards the messages to the second local port.

23. (New) The device of claim 22 wherein the second line card outputs information to the network segment to advertise the IP address and subnet mask of the network port.

24. (New) The device of claim 22 wherein the first line cards include xDSL line cards.